

Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims:

Claim 1 (Canceled)

1 Claim 2 (Currently amended) ~~The arch support orthosis of Claim 1 wherein said means for~~
2 ~~tensioning including:~~

3 An arch support orthosis having an arch curve adjustably tensioned during use to support
4 a foot when removably placed within a foot enclosure worn by a user, comprising:

5 an arch support orthosis sized for support of the user's foot from underneath about the
6 metatarsal bones of the foot, to underneath about the calcaneus bone of the foot, said orthosis
7 having a first surface contoured for support of the user's foot, having a second surface
8 downwardly faced for contact with a foot supporting surface of the foot enclosure, and having a
9 medial side and an outer lateral side on opposed sides of a central longitudinal midline of said
10 orthosis;

11 a forefoot portion of said first surface being arcuately shaped to be positionable
12 underneath the metatarsal bones of the user's foot;

13 a heel portion of said first surface being arcuately shaped to be positionable underneath
14 the calcaneus bone of the user's foot;

15 a medial longitudinal arch curve proximate said medial side of said orthosis, said medial
16 longitudinal arch curve being shaped to be positionable underneath the arch of the user's foot,
17 said medial longitudinal arch curve having an upper surface being curved upwardly along a

18 crown portion, said medial side being disposed in a continuous arched curve along a length
19 dimension of said medial side of said orthosis, said medial longitudinal arch curve including:
20 an anterior slope being inclined from said upper surface of said medial longitudinal arch
21 curve toward said forefoot portion of said orthosis;
22 a posterior slope being inclined from said upper surface of said medial longitudinal arch
23 curve toward said heel portion of said orthosis; and
24 a medial slope being inclined from said upper surface of said medial longitudinal arch
25 curve toward said lateral side of said orthosis;
26 a means for tensioning said medial longitudinal arch curve connectable between an
27 underside portion of said anterior slope and an underside portion of said posterior slope, said
28 means for tensioning having a means for adjusting manipulated by a user for adjustment of said
29 means for tensioning between a neutral length, a decreased length, and an extended length
30 between said anterior slope and said posterior slope, said means for tensioning including:
31 an anterior bracket being L-shaped, said anterior bracket having a distal portion being
32 connected under said anterior slope proximal to said medial side, said anterior bracket having a
33 proximal portion extended downwardly from said anterior slope;
34 a posterior bracket being L-shaped, said posterior bracket having a distal portion being
35 connected under said posterior slope proximal to said medial side, said posterior bracket having a
36 proximal portion extended downwardly from said posterior slope;
37 an anterior linkage aligned with said anterior bracket, said anterior linkage having a distal
38 end pivotably connected with said proximal portion of said anterior bracket, said anterior linkage
39 having a proximal end disposed underneath said crown portion of said medial longitudinal arch
40 curve;
41 a posterior linkage aligned with said posterior bracket, said posterior linkage having a

42 distal end pivotably connected with said proximal portion of said posterior bracket, said posterior
43 linkage having a proximal end disposed underneath said crown portion of said medial
44 longitudinal arch curve; and

45 said means for adjusting the neutral length between said distal end of said anterior
46 linkage and said distal end of said posterior linkage, said means for adjusting having opposed
47 ends being disposed to accept therein respectively said proximal ends of said anterior linkage and
48 said proximal linkage, said means for adjusting being manipulated by the user;

49 whereby said anterior linkage and said posterior linkage are retracted into respective
50 opposed ends of said means for adjusting by manipulation of said means for adjusting by the
51 user, the neutral length between said respective distal ends is shortened to said decreased length,
52 ~~each of~~ said anterior and posterior linkages engage ~~said each~~ respective proximal portions of said
53 anterior bracket and said posterior bracket, thereby ~~each~~ respective anterior and posterior
54 brackets pivot ~~respectively~~ inwardly, thereby pulling said underside of said anterior slope and
55 said posterior slope toward each other and increasing the tension along said medial longitudinal
56 arch curve, with resulting increase in the stiffness of said medial longitudinal arch curve for
57 increased support of the arch of the user's foot during repetitive foot-strikes;

58 whereby when each of said anterior linkage and said posterior linkage is extended from
59 said means for adjusting by manipulation ~~of said means for adjusting by the user, the neutral~~
60 length between said respective distal ends is lengthened to said extended length, thereby each
61 distal end extends against said respective proximal portions of said anterior bracket and said
62 posterior bracket which pivot against the underside of said anterior slope and said posterior
63 slope, thereby pushing said underside of said anterior slope and said posterior slope apart and
64 reducing the tension of said medial longitudinal arch curve, with resulting decrease in the
65 stiffness of said arch curve for reduced support of the arch of the user's foot.

Claim 3 (Withdrawn)

1 Claim 4 (Previously presented) The arch support orthosis of Claim 2 wherein said means
2 for adjusting being repeatably manipulated by the user for repetitive extension and retraction of
3 said anterior linkage and said posterior linkage.

1 Claim 5 (Previously presented) The arch support orthosis of Claim 2 wherein said means
2 for adjusting including a rotatable adjusting means having a sleeve nut, a worm gear, or a
3 turnbuckle.

Claim 6 (Withdrawn)

Claim 7 (Withdrawn)

Claim 8. (Withdrawn)

Claim 9. (Withdrawn)

Claim 10. (Canceled)

1 Claim 11. (Currently amended) ~~The foot support orthosis of Claim 10 further comprising a~~
2 ~~means for tensioning connectable underneath said arch curve, said means for tensioning~~
3 ~~including:~~

4 A foot support orthosis including an arch support having an arch curve being variably
5 tensioned during use, the foot support orthosis being fittable underneath the foot and removably
6 placed within a foot enclosure worn by a user, comprising:

7 an orthosis being sized for support of the foot from underneath about the metatarsal bones
8 of the foot, to underneath about the calcaneus bone of the foot, said orthosis having a first
9 surface being contoured for support of the foot, having a second surface being downwardly faced
10 for contact with the foot supporting surface of the foot enclosure and having a medial side and a
11 lateral side on opposed sides of a central longitudinal midline of said orthosis;

12 a forefoot portion of said first surface being arcuately shaped to be positionable
13 underneath the metatarsal bones of the user's foot;

14 a heel portion of said first surface being arcuately shaped to be positionable underneath
15 the calcaneus bone of the user's foot;

16 a medial longitudinal arch curve proximate said medial side of said orthosis, said medial
17 longitudinal arch curve being shaped to be positionable underneath the arch of the user's foot,
18 said medial longitudinal arch curve having an upper surface being curved upwardly along a
19 crown portion, said medial longitudinal arch curve including:

20 an anterior slope being inclined from said upper surface of said medial longitudinal arch
21 curve toward said forefoot portion of said orthosis;

22 a posterior slope being inclined from said upper surface of said medial longitudinal arch
23 curve toward said heel portion of said orthosis; and

24 a medial slope being inclined from said upper surface of said medial longitudinal arch
25 curve toward said lateral side of said orthosis; and

26 said anterior slope having an anterior base of a first thickness, said posterior slope having
27 a posterior base of about said first thickness, said crown portion extended between said medial
28 and posterior slopes along said upper surface of said medial longitudinal arch curve, said medial
29 side of said medial longitudinal arch curve being disposed in a continuous arched curve along a
30 length dimension of said medial side;

31 means for tensioning said medial longitudinal arch curve connectable between an
32 underside portion of said anterior slope and an underside portion of said posterior slope, said
33 means for tensioning having means for adjusting manipulated by the user for adjustment of said
34 means for tensioning between a neutral length, a decreased length, and an extended length
35 between said anterior slope and said posterior slope, said means for tensioning including:

36 an anterior bracket being L-shaped, said anterior bracket having a distal portion being
37 connected under said anterior slope proximal to said medial side, said anterior bracket having a
38 proximal portion extended downwardly from said anterior slope;

39 a posterior bracket being L-shaped, said posterior bracket having a distal portion being
40 connected under said posterior slope proximal to said medial side, said posterior bracket having a
41 proximal portion extended downwardly from said posterior slope;

42 an anterior linkage aligned with said anterior bracket, said anterior linkage having a distal
43 end pivotably connected with said proximal portion of said anterior bracket, said anterior linkage
44 having a proximal end disposed underneath said crown portion of said medial longitudinal arch
45 curve;

46 a posterior linkage aligned with said posterior bracket, said posterior linkage having a
47 distal end pivotably connected with said proximal portion of said posterior bracket, said posterior
48 linkage having a proximal end disposed underneath said crown portion of said medial
49 longitudinal arch curve; and

50 a said means for adjusting the neutral length between said distal end of said anterior
51 linkage and said distal end of said posterior linkage, said means for adjusting having opposed
52 ends being disposed to accept therein respectively said proximal ends of said anterior linkage and
53 said proximal linkage, said means for adjusting being manipulated by the user;

54 whereby said anterior linkage and said posterior linkage are retracted into respective

55 opposed ends of said means for adjusting by manipulation thereof, the neutral length between
56 said respective distal ends is shortened to said decreased length, ~~each of~~ said anterior and
57 posterior linkages engage ~~said each~~ respective proximal portions of said anterior bracket and said
58 posterior bracket, thereby ~~each~~ respective anterior and posterior brackets pivot ~~respectively~~
59 inwardly, thereby pulling said underside of said anterior slope and said posterior slope toward
60 each other and increasing the tension along said medial longitudinal arch curve;

61 whereby when each of said anterior linkage and said posterior linkage is extended from
62 said means for tensioning by manipulation of said means for adjusting, the neutral length
63 between said respective distal ends is lengthened to said extended length, thereby each distal end
64 extends against said respective proximal portions of said anterior bracket and said posterior
65 bracket which pivot against the underside of said anterior slope and said posterior slope, thereby
66 pushing said underside of said anterior slope and said posterior slope apart and reducing the
67 tension of said medial longitudinal arch curve, with resulting decrease in the stiffness of said
68 arch curve for reduced support of the arch of the user's foot;

69 whereby with said medial longitudinal arch curve being tensioned by prior manipulation
70 of said means for adjusting by the user, said arch curve is further tensioned intermittently during
71 each foot-strike by force being transferred by the user's foot from said heel portion and onto said
72 medial longitudinal arch curve of said orthosis, thereby the tension along said medial
73 longitudinal arch curve is intermittently increased without significantly decreasing the height of
74 the arch curve thereby supporting the arch of the user's foot while said crown portion of said
75 medial longitudinal arch curve flexibly rebounds to an unweighted position by force being
76 transferred by the user's foot from said medial longitudinal arch curve and onto said forefoot
77 portion of said orthosis during each foot-strike by the user wearing said orthosis.

Claim 12. (Withdrawn)

Claim 13. (Withdrawn)

Claim 14. (Withdrawn)

Claim 15. (Withdrawn)

Claim 16. (Withdrawn)

Claim 17. (Withdrawn)

Claim 18. (Withdrawn)

Claim 19. (Withdrawn)